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<110> McCallum, Claire
Slade, Ann J.
Colbert, Trent
Knauf, Vic
Anawah Inc.

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Ser Ile Leu Leu Leu Ile Ile Ile Phe Ala Ser Ser Ile Ser Thr Cys
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Arg Ser Asn Val Ile Asp Asp Asn Leu Phe Lys Gln Val Tyr Asp Asn
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att ctt gaa caa gaa ttt gct cat gat ttt caa gct tat ctt tct tat     1640
Ile Leu Glu Gln Glu Phe Ala His Asp Phe Gln Ala Tyr Leu Ser Tyr
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Leu Ser Lys Asn Ile Glu Ser Asn Asn Asn Ile Asp Lys Val Asp Lys
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Gly Lys Thr Tyr Asp Asn Ile
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                                  95                  100

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Ala Cys Ser Ser Arg Thr Pro Val Gln Phe Val Val Pro Lys Asn Lys
           105                 110                 115

aat tat ctt ctc aag caa atc acc ttt tca ggt cca tgc aga tct tct      2535
Asn Tyr Leu Leu Lys Gln Ile Thr Phe Ser Gly Pro Cys Arg Ser Ser
        120                 125                 130

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Ile Ser Val Lys
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Ser Asp Tyr Lys Asp Arg Arg Leu Trp Ile Ala Phe Asp Ser Val Gln
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aat tta gtt gtt gga gga gga gga act atc aat ggc aat aga caa gta      3455
Asn Leu Val Val Gly Gly Gly Gly Thr Ile Asn Gly Asn Arg Gln Val
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Trp Asn Cys Lys Asn Leu Lys Val Asn Asn Leu Lys Ser Lys Asn Ala
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caa caa att cat atc aaa ttt gag tca tgc act aat gtt gta gct tca     4367
Gln Gln Ile His Ile Lys Phe Glu Ser Cys Thr Asn Val Val Ala Ser
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Asn Leu Met Ile Asn Ala Ser Ala Lys Ser Pro Asn Thr Asp Gly Val
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His Val Ser Asn Thr Gln Tyr Ile Gln Ile Ser Asp Thr Ile Ile Gly
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Thr Cys Gly Pro Gly His Gly Ile Ser
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        Gly Gly Ser Gly Gln Ala Ser Asn Ile Lys Phe Leu Asn Val
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gaa atg caa gac gtt aag tat ccc ata att ata gac caa aac tat tgt     6228
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gat cga gtt gaa cca tgt ata caa cag gtaatttttt attaacgaac           6275
Asp Arg Val Glu Pro Cys Ile Gln Gln
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                                  Phe Ser Ala Val Gln Val Lys
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Asn Val Val Tyr Glu Asn Ile Lys Gly Thr Ser Ala Thr Lys Val Ala
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ata aaa ttt gat tgc agc aca aac ttt cca tgt gaa gga att ata atg      6904
Ile Lys Phe Asp Cys Ser Thr Asn Phe Pro Cys Glu Gly Ile Ile Met
395                 400                 405                 410

gag aat ata aat tta gta ggg gaa agt gga aaa cca tca gag gct acg      6952
Glu Asn Ile Asn Leu Val Gly Glu Ser Gly Lys Pro Ser Glu Ala Thr
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Cys Lys Asn Val His Phe Asn Asn Ala Glu His Val Thr Pro His Cys
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Lys Gln Val Tyr Asp Asn Ile Leu Glu Gln Glu Phe Ala His Asp Phe
35 40 45

Gln Ala Tyr Leu Ser Tyr Leu Ser Lys Asn Ile Glu Ser Asn Asn Asn
50 55 60

Ile Asp Lys Val Asp Lys Asn Gly Ile Lys Val Ile Asn Val Leu Ser
65 70 75 80

Phe Gly Ala Lys Gly Asp Gly Lys Thr Tyr Asp Asn Ile Ala Phe Glu
85 90 95

Gln Ala Trp Asn Glu Ala Cys Ser Ser Arg Thr Pro Val Gln Phe Val
100 105 110

Val Pro Lys Asn Lys Asn Tyr Leu Leu Lys Gln Ile Thr Phe Ser Gly
115 120 125

Pro Cys Arg Ser Ser Ile Ser Val Lys Ile Phe Gly Ser Leu Glu Ala
130 135 140

Ser Ser Lys Ile Ser Asp Tyr Lys Asp Arg Arg Leu Trp Ile Ala Phe
145 150 155 160

Asp Ser Val Gln Asn Leu Val Val Gly Gly Gly Gly Thr Ile Asn Gly
165 170 175

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180 185 190

Pro Cys Arg Asp Ala Pro Thr Ala Leu Thr Phe Trp Asn Cys Lys Asn
195 200 205

Leu Lys Val Asn Asn Leu Lys Ser Lys Asn Ala Gln Gln Ile His Ile
210 215 220

Lys Phe Glu Ser Cys Thr Asn Val Val Ala Ser Asn Leu Met Ile Asn
225 230 235 240

Ala Ser Ala Lys Ser Pro Asn Thr Asp Gly Val His Val Ser Asn Thr
245 250 255

Gln Tyr Ile Gln Ile Ser Asp Thr Ile Ile Gly Thr Gly Asp Asp Cys
260 265 270

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Cys Gly Pro Gly His Gly Ile Ser Ile Gly Ser Leu Gly Ser Gly Asn
290 295 300

Ser Glu Ala Tyr Val Ser Asn Val Thr Val Asn Glu Ala Lys Ile Ile
305 310 315 320

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325 330 335

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atcatttcta atactttaaa gatattttag gtcattttcc cttctttagt ttatagacta   1020

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aatttttaaa aaataaatta ttttttccat ttaactttga ttgtaattaa tttttaaaaa   1140

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                                        Met Val Ile Gln Arg Asn
                                        1               5

agt att ctc ctt ctc att att att ttt gct tca tca att tca act tgt      1544
Ser Ile Leu Leu Leu Ile Ile Ile Phe Ala Ser Ser Ile Ser Thr Cys
            10                  15                  20

aga agc aat gtt att gat gac aat tta ttc aaa caa gtt tat gat aat      1592
Arg Ser Asn Val Ile Asp Asp Asn Leu Phe Lys Gln Val Tyr Asp Asn
        25                  30                  35

att ctt gaa caa gaa ttt gct cat gat ttt caa gct tat ctt tct tat      1640
Ile Leu Glu Gln Glu Phe Ala His Asp Phe Gln Ala Tyr Leu Ser Tyr
    40                  45                  50

ttg agc aaa aat att gaa agc aac aat aat att gac aag gtt gat aaa      1688
Leu Ser Lys Asn Ile Glu Ser Asn Asn Asn Ile Asp Lys Val Asp Lys
55                  60                  65                  70

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Asn Gly Ile Lys Val Ile Asn Val Leu Ser Phe Gly Ala Lys Gly Asp
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Gly Lys Thr Tyr Asp Asn Ile
            90

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aaagtagaaa attatttttct cgtttttagt attaaggtga aaatgagttt ctcgttaagc   1907

gaggaaaagc tattttccat ggtaactgta ttttttttttt acttttaata acgtcatagt   1967

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                              Ala Phe Glu Gln Ala Trp Asn Glu
                                  95                  100

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Ala Cys Ser Ser Arg Thr Pro Val Gln Phe Val Val Pro Lys Asn Lys
            105                 110                 115

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Asn Tyr Leu Leu Lys Gln Ile Thr Phe Ser Gly Pro Cys Arg Ser Ser
        120                 125                 130

att tca gta aag gttagcatat tgattattta tatcctcttt gttagcaata         2587
Ile Ser Val Lys
    135

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                      Ile Phe Gly Ser Leu Glu Ala Ser Ser Lys Ile
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Ser Asp Tyr Lys Asp Arg Arg Leu Trp Ile Ala Phe Asp Ser Val Gln
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Asn Leu Val Val Gly Gly Gly Gly Thr Ile Asn Gly Asn Gly Gln Val
165                 170                 175                 180

tgg tgg cca agt tct tgc aaa ata aat aaa tca ctg gtaattttat          3501
Trp Trp Pro Ser Ser Cys Lys Ile Asn Lys Ser Leu
                185                 190

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tgg aat tgc aaa aat ttg aaa gtg aat aat cta aag agt aaa aat gca     4319
Trp Asn Cys Lys Asn Leu Lys Val Asn Asn Leu Lys Ser Lys Asn Ala
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caa caa att cat atc aaa ttt gag tca tgc act aat gtt gta gct tca     4367
Gln Gln Ile His Ile Lys Phe Glu Ser Cys Thr Asn Val Val Ala Ser
220                 225                 230                 235

aat ttg atg atc aat gct tca gca aag agc cca aat act gat gga gtc     4415
Asn Leu Met Ile Asn Ala Ser Ala Lys Ser Pro Asn Thr Asp Gly Val
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caa gta tca aat act caa tat att caa ata tct gat act att att gga     4463
Gln Val Ser Asn Thr Gln Tyr Ile Gln Ile Ser Asp Thr Ile Ile Gly
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                                                        Gly Asp Asp
                                                            270

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Cys Ile Ser Ile Val Ser Gly Ser Gln Asn Val Gln Ala Thr Asn Ile
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act tgt ggt cca ggt cat ggt ata ag  gtactctatt ttacaaatat            4668
Thr Cys Gly Pro Gly His Gly Ile Ser
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gga aat tca gaa gct tat gtg tct aat gtt act gta aat gaa gcc aaa      5668
Gly Asn Ser Glu Ala Tyr Val Ser Asn Val Thr Val Asn Glu Ala Lys
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Ile Ile Gly Ala Glu Asn Gly Val Arg Ile Lys Thr Trp Gln
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       Gly Gly Ser Gly Gln Ala Ser Asn Ile Lys Phe Leu Asn Val
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gaa atg caa gac gtt aag tat ccc ata att ata gac caa aac tat tgt     6228
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Asp Arg Val Glu Pro Cys Ile Gln Gln
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                                  Phe Ser Ala Val Gln Val Lys
                                                  375

aat gtg gtg tat gag aat atc aag ggc aca agt gca aca aag gtg gcc      6856
Asn Val Val Tyr Glu Asn Ile Lys Gly Thr Ser Ala Thr Lys Val Ala
    380                 385                 390

ata aaa ttt gat tgc agc aca aac ttt cca tgt gaa gga att ata atg      6904
Ile Lys Phe Asp Cys Ser Thr Asn Phe Pro Cys Glu Gly Ile Ile Met
395                 400                 405                 410

gag aat ata aat tta gta ggg gaa agt gga aaa cca tca gag gct acg      6952
Glu Asn Ile Asn Leu Val Gly Glu Ser Gly Lys Pro Ser Glu Ala Thr
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                415                 420                 425

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Thr Ser Leu Glu Ile Ser Glu Asp Glu Ala Leu Leu Tyr Asn Tyr
        445                 450                 455

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Ser Ser Ile Ser Thr Cys Arg Ser Asn Val Ile Asp Asp Asn Leu Phe
            20                  25                  30

Lys Gln Val Tyr Asp Asn Ile Leu Glu Gln Glu Phe Ala His Asp Phe
        35                  40                  45

Gln Ala Tyr Leu Ser Tyr Leu Ser Lys Asn Ile Glu Ser Asn Asn Asn
    50                  55                  60

Ile Asp Lys Val Asp Lys Asn Gly Ile Lys Val Ile Asn Val Leu Ser
65                  70                  75                  80

Phe Gly Ala Lys Gly Asp Gly Lys Thr Tyr Asp Asn Ile Ala Phe Glu
                85                  90                  95

Gln Ala Trp Asn Glu Ala Cys Ser Ser Arg Thr Pro Val Gln Phe Val
```

100 105 110

Val Pro Lys Asn Lys Asn Tyr Leu Leu Lys Gln Ile Thr Phe Ser Gly
115 120 125

Pro Cys Arg Ser Ser Ile Ser Val Lys Ile Phe Gly Ser Leu Glu Ala
130 135 140

Ser Ser Lys Ile Ser Asp Tyr Lys Asp Arg Arg Leu Trp Ile Ala Phe
145 150 155 160

Asp Ser Val Gln Asn Leu Val Val Gly Gly Gly Gly Thr Ile Asn Gly
165 170 175

Asn Gly Gln Val Trp Trp Pro Ser Ser Cys Lys Ile Asn Lys Ser Leu
180 185 190

Pro Cys Arg Asp Ala Pro Thr Ala Leu Thr Phe Trp Asn Cys Lys Asn
195 200 205

Leu Lys Val Asn Asn Leu Lys Ser Lys Asn Ala Gln Gln Ile His Ile
210 215 220

Lys Phe Glu Ser Cys Thr Asn Val Val Ala Ser Asn Leu Met Ile Asn
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Ala Ser Ala Lys Ser Pro Asn Thr Asp Gly Val Gln Val Ser Asn Thr
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Gln Tyr Ile Gln Ile Ser Asp Thr Ile Ile Gly Thr Gly Asp Asp Cys
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Cys Gly Pro Gly His Gly Ile Ser Ile Gly Ser Leu Gly Ser Gly Asn
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Ser Glu Ala Tyr Val Ser Asn Val Thr Val Asn Glu Ala Lys Ile Ile
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Gly Ala Glu Asn Gly Val Arg Ile Lys Thr Trp Gln Gly Gly Ser Gly
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Gln Ala Ser Asn Ile Lys Phe Leu Asn Val Glu Met Gln Asp Val Lys
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Thr Asn Phe Pro Cys Glu Gly Ile Ile Met Glu Asn Ile Asn Leu Val
405 410 415

Gly Glu Ser Gly Lys Pro Ser Glu Ala Thr Cys Lys Asn Val His Phe
420 425 430

Asn Asn Ala Glu His Val Thr Pro His Cys Thr Ser Leu Glu Ile Ser
435 440 445

Glu Asp Glu Ala Leu Leu Tyr Asn Tyr
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